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**CWDP CERTIFICATIONS Exam**  
**CWDP-305 Questions V10.02**  
**CWDP Certifications**  
**Topics - Certified Wireless**  
**Design Professional**

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1. When designing a Wi-Fi-based WLAN to support voice in a large office, which design element is of the highest concern for performance?

- A. AP enclosures
- B. Roaming
- C. AP vendor
- D. Support for 900 MHz

Answer: B

2. What is the minimum PoE budget required to power 6 APs using IEEE 802.3at with no additional details provided?

- A. 320 W
- B. 60W
- C. 180 W
- D. 240 W

Answer: C

3. In high-density environments like stadiums or convention centers, what additional factor must be considered that can attenuate Wi-Fi signals during events?

- A. Thick walls
- B. I-Beams
- C. People
- D. Fire doors

Answer: C

4. Which document outlines the objectives, scope, and key stakeholders, serving as the official authorization to begin a WLAN design and deployment project?

- A. Bill of Materials
- B. Project Charter
- C. Work Breakdown Structure
- D. Budget

Answer: B

5. When conducting information gathering for a WLAN design, which document ensures your customer's proprietary information remains confidential and protected from unauthorized disclosure?

- A. NDA
- B. SoW
- C. BoM
- D. Hold Harmless

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Answer: A

6. In WLAN location-based services, which metric, despite being commonly used, offers the lowest accuracy when determining device positions?

- A. Angle of Arrival (AoA)
- B. Time of Arrival (ToA)
- C. Time Difference of Arrival (TDoA)
- D. Received Signal Strength Indicator (RSSI)

Answer: D

7. Your customer uses PSK authentication but needs a more secure, certificate-based solution requiring certificates on both the client and server.

Which EAP method is the most appropriate?

- A. EAP-FAST
- B. EAP-TTLS
- C. EAP-TLS
- D. PEAP

Answer: C

8. When designing a wireless bridge to connect two offices 13 kilometers (approximately 8 miles) apart, which factor must the Wireless Engineer consider to account for Fresnel Zone clearance?

- A. Earth bulge
- B. Antenna gain
- C. FSPL
- D. Receive sensitivity

Answer: A

9. While conducting a site survey in a heavy machinery repair facility, what essential gear should you use for safety in this challenging environment?

- A. Personal Protective Equipment (PPE)
- B. Low gain antennas
- C. Low power APs
- D. Indoor APs

Answer: A

10. A North American business traveler connects to a hotel's 2.4 GHz SSID in Europe and notices low RSSI from an AP in the room, but experiences no issues with RSSI in

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the lobby.

What is the most likely reason for the low RSSI in the room?

- A. The AP in the room is using ZigBee instead of Wi-Fi
- B. The AP in the room is transmitting on channel 13 and the traveler associated to an AP on channels 1 through 11 in the lobby
- C. The switchport that the AP is connected to is only capable of transmitting at 10 Mbps
- D. The AP in the room is using Bluetooth instead of Wi-Fi

Answer: B

11. A museum requires its wireless access points to be discreetly integrated into the environment without sacrificing performance.

Which design choice best meets this requirement while maintaining optimal functionality?

- A. Lock the AP inside of a metal box
- B. Place the APs in between walls and I-beams
- C. Use an 802.11b AP, so it looks old enough to be in a museum
- D. Use a plastic cover that could blend in with the environment

Answer: D

12. An engineering firm upgraded from nine 802.11n APs to nine 802.11ac APs, retaining the same channel and power configuration. Despite this, throughput remains unchanged.

What is the most likely reason for the lack of improvement?

- A. APs are transmitting at a low transmit power
- B. The clients were not upgraded
- C. APs are mounted on the wall
- D. The APs are still using the 5 GHz lower band

Answer: B

13. During a public Wi-Fi session with 10 other users, you run a ping sweep but cannot detect any devices on your subnet.

What feature is likely enabled on the WLAN infrastructure to prevent local communication between clients?

- A. Peer-to-peer blocking
- B. OSPF external routes
- C. Band steering
- D. Load balancing

Answer: A

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14. While implementing 802.11ax APs in the 6 GHz band, a consultant recommends using WPA2-Personal for VoIP support.

Why is this approach technically inappropriate?

- A. Because WPA2-Personal causes slower roams than WPA2-Enterprise
- B. Because 802.11ax does not support WPA2-Personal in any band
- C. Because 6 GHz WLANs cannot use WPA2-Personal
- D. Because VoIP requires Opportunistic Wireless Encryption (OWE)

Answer: C

15. While planning for a VoWLAN deployment requiring 25 dB SNR, you measure the noise floor at -88 dBm.

What is the minimum RSSI needed to meet the system's performance requirements?

- A. -70 dBm
- B. -67 dBm
- C. -65 dBm
- D. -63 dBm

Answer: D

16. When deploying an Enterprise-class VoWLAN infrastructure, which Access Category (AC) must be used to prioritize voice packets and ensure optimal performance?

- A. AC\_VI
- B. AC\_VO
- C. AC\_BE
- D. AC\_BK

Answer: B

17. When using a WLAN design tool with propagation modeling capabilities, what critical step must be performed before adding APs, antennas, and attenuation factors like walls?

- A. Set the transmit power for all APs
- B. Add pictures of the environment
- C. Nothing; just begin by adding APs, antenna and attenuators
- D. Calibrate the floor plan to increase accuracy

Answer: D

18. Your customer's 802.11n laptops cannot detect the SSID in the 5 GHz band in a conference room, but your 802.11ac laptop connects without issue.

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What is the most likely explanation for this discrepancy?

- A. The AP is configured to use channel 36
- B. The customer laptop does not support OFDM
- C. The AP is on channel 144
- D. Their laptops are SISO clients

Answer: C

19. When designing a static channel plan for an office using voice devices near an airport, which range of channels may be avoided to avoid channel switching when implemented in this environment?

- A. 36-40
- B. 44-48
- C. 116-124
- D. 1-11

Answer: C

20. Which vertically polarized antenna is best suited for a WLAN infrastructure with access points mounted on a ceiling over 6 meters high, where all client stations operate from the floor level?

- A. Patch
- B. Dish
- C. Grid
- D. Low-gain dipole

Answer: D

21. When using a predictive design tool, you have selected access points (APs) with an antenna gain of 3 dBi and set the transmit power to 25 mW.

What is the EIRP (Effective Isotropic Radiated Power) of the APs in this design?

- A. 11 dBm
- B. 6.25 mW
- C. 125 mW
- D. 17 dBm

Answer: D

22. Your customer has selected switches that support 802.3bz MultiGig interfaces and 4x4:4 802.11ac Wave 2 APs with dual-5GHz capabilities. The APs have one MultiGig interface, and some cable runs will exceed 180.5 feet (55 meters).

To support MultiGig speeds, which is the best cabling option?

- A. Cat-5

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- B. Cat-6
  - C. Cat-5e
  - D. Cat-6a
- Answer: C

23. When conducting a site survey for a possible WLAN redesign, you use two Wi-Fi USB adapters for RSSI data collection and two USB spectrum analysis adapters for RF spectrum data. Since your laptop lacks enough USB ports, you connect them via a 4-port powered USB 3.0 hub.

What issue could the use of USB 3.0 cause that might impact your site survey?

- A. It does not give you enough bandwidth to collect data coming from all of the adapters
- B. No USB 3.0 hub provides enough power for all the adapters
- C. It generates noise in the 2.4 GHz band, giving you a false perception of the noise floor
- D. It generates noise in the 5 GHz band, giving you a false perception of the noise floor

Answer: C

24. What is the most cost-effective way to accurately measure the height of a ceiling when the use of a ladder is not permitted?

- A. Estimate the height based on known object sizes
- B. Gather measurements from other objects and do the math
- C. Rent a lift-cart to lift you up to the ceiling
- D. Use a laser measure to measure the distance from the floor to the ceiling

Answer: D

25. You conducted a site survey using two USB Wi-Fi adapters with a special driver designed for the site survey software. After deployment, the client devices show lower RSSI values compared to the results from your survey.

What is the most likely reason for this discrepancy?

- A. USB Wi-Fi adapters designed for site surveys may have better sensitivity than regular Wi-Fi cards installed in client devices
- B. The transmit power on the APs is higher than needed
- C. Regular Wi-Fi cards installed in client devices do not support the same protocols as survey adapters
- D. All USB Wi-Fi adapters have a greater sensitivity than internal Wi-Fi adapters

Answer: D

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26. When performing an active site survey in an existing WLAN infrastructure, in addition to gathering throughput data, what other important function are you typically testing simultaneously?

- A. Application filtering
- B. Internet bandwidth
- C. Roaming
- D. ACL configuration

Answer: C

27. Why should band steering algorithms allow stations to connect to the 2.4 GHz band after ignoring a certain number of Probe Requests?

- A. Because the FCC requires it
- B. Because some clients are persistent clients that will not move to the 5 GHz band
- C. Because the 802.11 standard requires it
- D. Because the AP will experience a buffer overflow if they do not eventually respond with a Probe Response

Answer: B

28. After designing a WLAN infrastructure using predictive design software, what is the best way to validate the predictive design in the physical space before deployment, assuming time and budget allow for it?

- A. Deploy all of the APs as they're shown in the predictive design and perform an active site survey
- B. Deploy all of the APs as they're shown in the predictive design and perform a passive site survey
- C. Use a client device positioned where the APs will be installed and measure the signal from the client device
- D. Perform an AP-on-a-Stick survey using AP locations based upon the predictive design to confirm each AP's placement

Answer: D

29. Your customer requires a security solution where client credentials are used, not a Protected Access Credential (PAC), and the authentication server must have a certificate with optional client certificate use.

Which EAP (Extensible Authentication Protocol) method is the best fit for these requirements?

- A. EAP-FAST
- B. EAP-TTLS
- C. EAP-TLS
- D. LEAP



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Answer: B

30. Your customer requires fast and secure roaming.

Which two types of roaming are specified in 802.11 Fast Transition (FT) that will help meet this goal?

- A. Over-the-Air and Over-the-DS
- B. Over-the-Air and Over-the-Wire
- C. FT and OKC
- D. FT and TKIP

Answer: A

31. Which advantage provided by 802.11n and 802.11ac is not usable in 1x1:1 low-end client devices?

- A. Channel bonding
- B. MCS data rates
- C. Maximal Ratio Combining
- D. Mandatory data rates

Answer: C

32. When deploying access points (APs) outdoors, which additional component needs to be used that is typically not required in most indoor office deployments?

- A. Antennas
- B. NEMA enclosures
- C. Ethernet cables
- D. PoE

Answer: B

33. Which document provided to your customer should include all devices and parts that will be used during the deployment of their WLAN infrastructure?

- A. SoW (Statement of Work)
- B. BoM (Bill of Materials)
- C. Design report
- D. Project plan

Answer: B

34. What limitation exists when WMM is not enabled on an 802.11 WLAN?

- A. 802.11 QoS will not be available
- B. The maximum channel-width will be 20 MHz

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- C. EDCA values will change
  - D. Only two ACs will be available

Answer: A

35. When designing for OFDMA, why might the same channel bandwidth result in greater efficiency than that available in 802.11n and 802.11ac?

- A. The design will use MU-MIMO, which is not available in either 802.11n or 802.11ac.
- B. The design will use transmit beamforming, which is not available in either 802.11n or 802.11ac.
- C. The design will use RUs that allow for transmissions to multiple client devices concurrently without the use of MU-MIMO.
- D. The clients will use UL MU-MIMO coupled with DSSS, which was not available in 802.11n or 802.11ac.

Answer: C

36. What service must be implemented on your customer's network to authenticate users against an LDAP database before granting access to the WLAN infrastructure?

- A. SSH
- B. RADIUS
- C. SFTP
- D. TLS

Answer: B

37. What is the best method of gathering attenuation measurements from wall materials?

- A. After measuring the RSSI in free space 5 meters (16.5 feet) apart, put an AP 4 meters (13 feet) away from the wall on one side and your measuring device 1 meter (3.2 feet) away from the wall minus the width of the wall. Take measurements and compare the difference.
- B. Use the pre-built attenuation values in the predictive design tools as they are more accurate than free-space metrics gathered with commercial devices.
- C. After measuring the RSSI in free space 1 meter (3 feet) apart, put an AP 0.32 meters (1 foot) away from the wall on one side and your measuring device 0.67 meters (2 feet) away from the wall on the other side. Take measurements and compare the difference.
- D. Look on the Internet for attenuation values for each one of the materials that might attenuate the Wi-Fi signal using the material providers' websites.

Answer: C

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38.Which type of authentication and encryption method is mandatory for Voice Enterprise certified devices as specified by the Wi-Fi Alliance?

- A. WPA2/AES Personal
- B. WPA2/TKIP Enterprise
- C. WPA2/AES Enterprise
- D. WPA/TKIP Personal

Answer: C

39.Which document provides detailed instructions for installation technicians on how to properly mount and configure access points (APs)?

- A. Hold Harmless
- B. Statement of Work
- C. Bill of Materials
- D. Physical installation guide

Answer: D

40.In addition to a copy of your design, which tools should you provide to ensure the installation team correctly deploys access points (APs) in the specified locations within a multi-floor indoor design?

- A. GPS and a map
- B. RF spectrum analyzer and packet capturing software
- C. Ladder and a pen
- D. Camera and marking tools

Answer: C

41.When installing access points (APs) on high ceilings, what is the most common personal protective equipment (PPE) that should be used?

- A. Hardhat, high visibility vest and body belt
- B. Glasses, gloves and jacket
- C. Clean suits, masks and glasses
- D. Clean suits, gloves and jacket

Answer: A

42.You are preparing to perform a site survey for a company that processes meat, but some areas are restricted due to high security.

What should you do in order to proceed with the site survey?

- A. Gain appropriate access and clearance to perform the site survey
- B. Gain meat processing access certification from the FDA

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C. Ensure that you and your team are using food industry approved USB adapters for the survey

D. Just begin the survey, they will understand

Answer: A

43. Which DHCP option, when required, must be configured to help access points (APs) locate their wireless LAN controller (WLC) during deployment?

A. 150

B. 62

C. 43

D. 22

Answer: C

44. When deploying a new WLAN infrastructure using Power over Ethernet (PoE) to power the access points (APs), you find that a known good AP is not powering up. You connect your laptop using the same cable without any issues.

What is the most likely reason the AP did not power up?

A. Missing AP licenses on the controller

B. Spanning-tree convergence

C. Layer 3 routing

D. Lack of PoE budget on the switch

Answer: D

45. During your first pre-deployment meeting with the deployment team, you hand out the full design documentation to everyone.

What is your primary goal during this meeting?

A. To explain design decisions and ensure understanding of design documents

B. To discuss AP functionality

C. To explain how Wi-Fi works

D. To justify the budget

Answer: A

46. A controller-based WLAN infrastructure has its controller on a different subnet than its access points (APs).

What device must be used to enable communication between the controller and the APs?

A. NTP server

B. Router

C. PoE Layer 2 switch

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D. Wireless bridge

Answer: B

47. What power management feature introduced in 802.11ax, but not available in 802.11ac or 802.11n, is designed to improve battery life for WLAN devices?

- A. WMM-Power Save
- B. Legacy Power Save
- C. TWT
- D. OFDMA

Answer: C

48. Aesthetics are critical in some environments.

What common installation technique can best meet this requirement in a stadium while not voiding manufacturer warranties?

- A. Painting to match team colors
- B. Using enclosures under the seats
- C. Mounting on a non-fixed pole
- D. Mounting on the walls

Answer: B

49. What type of site survey helps determine if roaming is functioning as intended?

- A. Passive
- B. Predictive
- C. Active
- D. Spectrum analysis walkthrough

Answer: C

50. When performing a frame capture over the air during a voice call, you notice that frames in the downlink direction (from the AP to the client) are not being transmitted with the correct UP (User Priority) value for voice frames, but in the uplink direction (from the client to the AP), they are transmitted correctly.

What is the likely cause of this issue?

- A. Bad client driver
- B. AP is not receiving enough PoE, thus not using QoS features
- C. Somewhere on the wired network QoS markings aren't being trusted
- D. Faulty antenna on the AP

Answer: C

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51. You are validating client association capabilities to an 802.1X/EAP secure SSID. The RADIUS server's IP address is 10.100.50.25, and the default RADIUS authentication port is being used. None of the clients can associate with the SSID. After verifying that both the server and the RADIUS service are operational, you find that the authenticator (such as the AP or controller) is not communicating properly with the RADIUS server.

What is your next troubleshooting step?

- A. Verify that the shared secret between the authenticator and the RADIUS server is the correct
- B. Reboot the clients to empty the shared secret cache
- C. Reboot the server to empty the shared secret cache
- D. Restart the RADIUS service to empty the shared secret cache

Answer: A

52. During lunch time in the break room of a company, Wi-Fi connectivity on the 2.4 GHz band becomes intermittent. At other times of the day, it works fine.

What is the most likely cause of this issue?

- A. Employees are using their cell data instead of using the Wi-Fi
- B. The AP in the cafeteria keeps rebooting due to lack of PoE budget on the switch
- C. Toasters and ovens are heating up the air, raising the noise floor with the Wi-Fi on the 2.4 GHz band
- D. Microwaves in the cafeteria are interfering with the Wi-Fi on the 2.4 GHz band

Answer: D

53. After deploying a 5 GHz-only WLAN infrastructure in the USA, using 20 MHz channel widths and all 25 available channels, a manager tests the Guest SSID on his 802.11n tablet. During testing, he experiences several areas with poor RSSI (below -80 dBm) or no signal at all. Upon checking, all APs are operational, and coverage was validated post-deployment.

What is the likely cause of this issue?

- A. His tablet doesn't support the 5 GHz band
- B. His tablet only supports a 40 MHz channel-width
- C. His tablet does not support one or more of the 5 GHz channels
- D. His tablet doesn't support MU-MIMO

Answer: C

54. After designing and deploying a WLAN infrastructure, you notice that co-channel interference (CCI) is causing poor performance in the 2.4 GHz band. Although the WLAN was primarily designed for 5 GHz, 2.4 GHz was included as a best-effort solution. You discover that the implementers did not follow your configuration

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guidelines.

What can you do to minimize the impact of CCI in the 2.4 GHz band without adding adjacent-channel interference (ACI)?

- A. Add more APs to the infrastructure
- B. Increase the transmit power on all APs
- C. Turn off 2.4 GHz radios on some APs
- D. Use all channels available in the 2.4 GHz band

Answer: C

55. You have performed a validation site survey after deploying a WLAN infrastructure in an All-Wireless-Office. One specific application is experiencing delays after transitioning from wired to wireless connectivity. During validation, you discover that all APs are using 80 MHz channel widths instead of the designed 20 MHz on the 5 GHz band.

What can be done to resolve the delay for this application?

- A. APs should be using 160 MHz channel-widths to get more throughput
- B. Reconfigure to use 20 MHz channel-widths, so reuse of the frequency is more effective
- C. Power-off half of the APs to reduce CCI and keep 80 MHz channel-widths
- D. Add more APs using 80 MHz channel-widths

Answer: B

56. What deliverables should be provided to the customer after successfully implementing a WLAN infrastructure?

- A. Digital or physical assets, guides, floorplans with design information, and configuration documents
- B. Project Charter, requirements specification, and software licenses
- C. Facility blueprints, NDAs, and hold harmless documents
- D. Nothing is required. The implemented WLAN was the deliverable.

Answer: A

57. Who should be present from the customer side during the final meeting after successfully implementing a WLAN infrastructure?

- A. Acquirer and stakeholders
- B. End-users
- C. The customer's customers
- D. Remote workers

Answer: A

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58. During a validation site survey, you discover that some access points (APs) have been mounted above the ceiling due to an aesthetic request from the building architect. However, no aesthetics constraints were communicated during the requirements gathering from the main stakeholder of the project.

What is the appropriate course of action?

- A. Advise the stakeholder that WLAN performance requirements will not be met and a new design process will be needed to meet the requirements
- B. Leave it as it is and allow automatic channel management to correct any issues
- C. Increase the output power on all APs by 6 dB immediately to accommodate for the additional attenuation
- D. Remove all external antennas and use only the internal antennas to reduce multipath and increase acquirer satisfaction

Answer: A

59. According to IEEE 29148-2018, which of the following is a characteristic of a requirements set that is not a characteristic of an individual requirement statement?

- A. Comprehensible
- B. Feasible
- C. Necessary
- D. Verifiable

Answer: A

60. In a convention center auditorium, you've received complaints about the WLAN performance. Currently, only two APs are installed, but they are supporting over 300 client devices simultaneously, which exceeds the original design.

What action should you take to ensure the Wi-Fi works as expected?

- A. Redesign the WLAN for the auditorium requirement area
- B. Quickly add more APs to the auditorium requirement area
- C. Upgrade the Ethernet connections to MultiGig
- D. Turn up the output power on the APs so that they can handle more clients

Answer: A

61. In 802.11, clients are required to be calibrated for RSSI and SNR reporting to:

- A. Within  $\pm 5$  dB
- B. Within  $\pm 3$  dB
- C. Within  $\pm 1$  dB
- D. Within  $\pm 0.5$  dB
- E. Within  $\pm 0.25$  dB
- F. No specific value

Answer: F



61. You have determined the best mounting locations for APs in a given installation. The facilities manager has asked you to change the locations for several APs due to aesthetic concerns. You suggest mounting the APs in the ideal locations and painting them so they go unnoticed in the environment.

What is a valid recommendation or consideration when painting APs?

- A. Always use paints with metallic dye in them to prevent potential RF propagation impact.
- B. Painting APs will significantly reduce the output power.
- C. Painting APs may void the product manufacturer's warranty.
- D. Most AP models for indoor environments come in a variety of form factors and colors. Painting is never recommended.

Answer: C

62. When deploying long-distance 802.11 bridge links (10 miles / 16 km), what parameter may be critical for improving data flow by reducing retries caused by the long distances?

- A. The sequence control field value
- B. The acknowledgement timeout threshold
- C. The minimum transmit data rate value
- D. The CTS-to-self threshold

Answer: B

63. One of your customers plans on providing wireless coverage to a warehouse facility.

After performing an initial walkthrough, you collect the following information:

The central part of the warehouse is between 400 and 600 feet (122 to 183 meters) from the warehouse switches mounted on the walls.

? The warehouse storage is composed of metallic racks with varying inventory levels and contents, from electronics and plastic toys to food pallets and juice bottles.

? Workers need basic data coverage from their working location, and are not highly mobile.

They usually work from one single aisle, and their laptop is on a cart with wheels.

What would be your one recommendation to provide coverage to the central area of the warehouse?

- A. Equip workers laptops with a directional antenna and install APs less than 328 feet (100m) away from the switch.
- B. In this case, extend the cable length just beyond 328 feet (100 m) and position APs as close as possible to the central area of the warehouse.
- C. Position APs along the walls, and equip the APs with Yagi antennas to cover the central area.

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D. Install APs for client access in the central area and use a mesh backhaul link to connect to the DS.

Answer: B

64. Which definition correctly describes the "local MAC" variation of the centralized WLAN architecture?

- A. All MAC functions are performed by the AP. A minimal subset of network control is offloaded to the WLAN controller along with management and monitoring functions.
- B. PHY functions are performed directly by the AP. MAC functions are divided almost equally between the WLAN controller and the AP, according to the time sensitivity of the feature or service.
- C. The AP provides the RF termination point for the WLAN, but performs very few of the WLAN functions or services. The WLAN controller performs all MAC functions and the AP is very simple and lightweight.
- D. All RF-, data-, and control-related WLAN functions are performed by the AP. APs coordinate network services with one another and are managed by a WNMS,

Answer: A

65. When a WLAN controller sends an 802.11 frame to a lightweight AP for transmission on the wireless medium, how does it mark the frame for 802.11 QoS priority?

- A. The WLAN controller will place the user priority (UP) value in the QoS Control field of the 802.11 frame header before passing it to the lightweight AP.
- B. The WLAN controller does not mark 802.11 frames with priority values only the APs can do this.
- C. The WLAN controller does not mark the 802.11 frames with priority values only the Layer 3 switches can do this.
- D. The WLAN controller does not mark the 802.11 frames with priority values only the Layer 3 routers can do this.

Answer: A

66. When selecting a centralized WLAN architecture, what new problem may arise when you change the data forwarding model from centralized to distributed?

- A. APs that were designed for a centralized forwarding model may not support all features in distributed forwarding mode.
- B. The router between the APs and the controller must be made aware of the APs as forwarding client STAs.
- C. All RRM controls will also need to be distributed to a master AP that acts as a channel and transmit power arbiter for other APs in the ESS.
- D. Centralized control functions, such as key management and distribution, RRM, and

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load balancing will no longer be supported.

Answer: A

67. Which one of the following is an essential metric to measure when performing a survey and design for VoIP across WLANs?

- A. Throughput rates above 50 Mbps
- B. Data rates above 100 Mbps
- C. Latency
- D. PoE provided to wireless handsets

Answer: C

68. In a manufacturing facility with highly reflective materials, you are planning an upgrade to your existing 802.11b WLAN implementation. You have chosen a dual-band 802.11n infrastructure product for this purpose.

Your client applications include:

- ? Handheld scanners for inventory management
- ? Tough books (laptops) mounted on forklifts for inventory and workflow management
- ? VoWiFi phones used by select employees throughout the facility

You are evaluating all of the 802.11n enhancements and determining which features to enable for your environment and applications.

In this scenario, what 802.11n enhancement typically should NOT be enabled on the 2.4 GHz radio of the new APs?

- A. Multiple streams
- B. Short guard intervals
- C. Block Acknowledgments
- D. Frame aggregation

Answer: B

69. When implementing WLAN security according to common best practices, what feature should be enabled when configuring an EAP type?

- A. The "Use WEP if RADIUS server unavailable" option
- B. The "Validate server certificate" option
- C. The "Trusted Root Certification Authorities" list
- D. The "Do not prompt user to authorize new servers or trusted certification authorities" option

Answer: B

7 1. You are selecting external antennas for use in a bridge link deployment.

What chart should you request from the antenna vendors to make an accurate selection?

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- A. mW to dBm conversion chart
  - B. dBm to dB conversion chart
  - C. Elevation chart
  - D. Antenna coating chart

Answer: C

70. When live video streaming solutions that transmit simultaneously to more than one recipient are used, what special capability should be considered and configured in all affected WLAN implementations?

- A. IPSec
- B. IPv6
- C. Multicasting
- D. Secure TCP

Answer: C

71. What VoWiFi implementations frequently require multicast packet delivery support by the WLAN infrastructure?

- A. All VoWiFi implementations
- B. Push-to-Talk VoWiFi phones
- C. All VoWiFi soft phones
- D. All VoWiFi hard phones

Answer: B

72. As you plan a WLAN upgrade, you have assessed the network requirements and data signatures of your applications. One of the popular applications used on your network requires high bandwidth and low to medium Wi-Fi loss, but can tolerate moderate latency and jitter.

What application matches this description?

- A. Voice
- B. Email
- C. Skype chat
- D. Video-on-demand

Answer: B

73. Given: The 802.11ac APs you have selected for your public access deployment support many of the PHY and MAC enhancements offered by the 802.11n and 802.11ac amendments. The AP is configured for a single-band (2.4 GHz) and only allows 20 MHz channels. The WLAN radio in the AP is a 3x3 802.11n chip that supports two spatial streams.

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What is the maximum MCS rate that could be supported by this AP?

- A. 54 Mbps
- B. 65 Mbps
- C. 108 Mbps
- D. 144 Mbps

Answer: D

74. As an implementation engineer, you have just received initial design specs from a network designer for your dual-band 802.11n deployment.

The network design documents prescribe the following data rate configuration for the 2.4 GHz radio:

Basic Rates 5.5, 6, 11, 12 Mbps

Supported Rates 9, 18, 24, 36, 48, and 54 Mbps as well as MCS 0-15

What will result from this design strategy?

- A. By disabling support for 1 and 2 Mbps while allowing 5.5 and 11 Mbps, the network will force

75. 11b clients to use these higher data rates.

- B. Protection mechanisms will always be in use on this network to support 5.5 and 11 Mbps as basic rates.
- C. HR/DSSS (802.11b) stations will not be able to associate to the service set.
- D. This configuration violates the IEEE specification that defines 6, 12, and 24 Mbps as mandatory data rates for 802.11g/n.

Answer: A

76. Given: As the wireless network administrator for XYZ Company, you are planning to upgrade your aging wireless network infrastructure, as well as some clients, to support 802.11ac. In your research, you have discovered that your new wireless client devices and infrastructure are 802.11ac, WMM, and WMM-PS certified by the Wi-Fi Alliance. Some of your existing client devices are 802.11a/b/g devices that do not support WMM.

Given this information, what scenario is possible when your company's employees begin using both types of client devices on the new WLAN?

- A. All WMM-PS certified client devices will be prevented from utilizing WMM-PS features until all stations in use on the wireless medium are WMM-PS certified.
- B. The WLAN infrastructure will set the dozing times of the WMM-PS certified client devices based upon their WMM access category, while the non-WMM-PS client devices will continue to use PS-Poll frames.
- C. Performance and battery life will be inconsistent between WMM-PS and non-WMM-PS client devices when used with applications that support WMM-PS.

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D. WMM-PS enabled APs will allow both WMM-PS and non-WMM-PS stations to use the trigger-and-delivery mechanism, but WMM-PS stations will

Answer: C

77. You desire to achieve a 450 Mbps MCS.

What 802.11n features (from the numbered list below) are required?

78. Frame aggregation

79. Short GI

80. 40 MHz channels

81. 2 spatial streams

82. 3 spatial streams

83. Transmit beamforming (TxBF)

A. 2,3,2

B. 1,2,3,5

C. 1,2,3,4,6

D. 2,3,5

Answer: D

84. You are tasked with designing the WLAN to accommodate certain high density areas on your university campus where users frequently come and go. With a limited DHCP pool size (subnet mask = 255.255.252.0) for this WLAN subnet, you want to ensure that your DHCP addresses are used

efficiently and are not exhausted, which would prevent new client Layer 3 connections. The DHCP server is a Windows Server 2012 R2 machine.

Your design task is to determine the best configuration to allow as many users as possible while avoiding WLAN service interruptions and also to use the available addresses as efficiently as possible.

What setting would be most effective at achieving this design task?

A. Set the RTS threshold to 2346 bytes

B. Set the inactive wireless client timeout (client age-out) to 5 minutes

C. Set the maximum client limit per radio to 64

D. Set the DHCP lease for this pool to 20 minutes

Answer: D

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85. What is the DSCP Per Hop Behavior equivalent classification of the 802.11 AC\_VO priority level?

- A. AF31
- B. CS3
- C. VO
- D. EF

Answer: D

8 1. You are working on a VoWLAN design with your customer's wired networking team.

How many distinct priority levels do you expect for the voice applications?

- A. 1 priority level, but 2 queues (one for uplink traffic, one for downlink traffic)
- B. 1 priority level per client and AP pair, so the total number depends on the expected number of clients
- C. 1 priority level for voice RTP, 1 priority level for voice control and RTCP
- D. 1 priority level for VoWLAN client traffic, 1 priority level for wired VoIP client traffic

Answer: C

86. ABC Company has a WLAN controller with 10 controller-based APs; the Voice SSID is configured for centralized data forwarding. Each AP is connected to an access port on a layer-2 Ethernet switch. Each layer-2 switch is uplinked to a single layer-3 core Ethernet switch. The WLAN controller is connected directly to the layer-3 core Ethernet switch. Layer-3 tunnels are created between all controller-based APs and the WLAN controller. A voice server is connected to the layer-3 Ethernet switch. When a voice-enabled QoS STA sends an IP data packet to a voice server in this scenario, the DSCP value carried in the STA's IP data packet gets mapped to what and by which device?

- A. The DSCP value is mapped to an IEEE 802.1Q priority tag value by the WLAN controller.
- B. The DSCP value is mapped to the DSCP value in the encapsulating IP header by the layer-3 switch.
- C. The DSCP value is mapped to an IEEE 802.1p (802.1D-2004) UP value by the access point.
- D. The DSCP value is mapped to an IEEE 802.1Q VLAN tag by the access point.

Answer: A

87. Given: For this fill-in the blank question, each answer option contains an answer for the first and second blanks, separated by a dash "?". Choose the answer option that correctly fills in both blanks in the following sentence.

A WLAN may use 802.11 admission control to \_\_\_\_\_, and admission control requirements are configured separately for each \_\_\_\_\_.

- 
- A. Block stations with inadequate security parameters ? SSID
  - B. Identify voice-enabled wireless devices ? AP radio (that is, 2.4 GHz or 5 GHz)
  - C. Regulate the available bandwidth resources ? Access Category
  - D. Mark ingress and egress frames with priority values ? TCP/IP port

Answer: C

88. In a large enterprise (5000+ wireless users), by what would NOT be a recommended method by which IP addresses and VLANs are assigned to different clients associated to the same AP?

- A. Each SSID is mapped to a static VLAN assignment
- B. Upstream AAA servers dynamically assign VLANs to each user or group profile
- C. Radio signal metrics (RSSI, SNR, etc.) of WLAN clients are triangulated for location-based VLAN assignment during association
- D. Multiple VLAN pools are designated for an SSID and user IP addresses are selected in a round-robin fashion from the associated pools

Answer: C

89. In a multiple channel architecture (MCA) network supporting 802.1X authentication, what aspect of WLAN design affects client roaming efficiency and effectiveness?

- A. PHY standard used by the AP
- B. Key caching protocols
- C. Cipher suite
- D. PHY standard used by client

Answer: B

90. An associated STA detects a new BSS with the same SSID as the STA's current BSS. The new BSS uses a different IP subnet than the current BSS.

If the STA is configured to use 802.1X/EAP preauthentication, what is likely to occur?

- A. The STA will not attempt to preauthenticate because the new BSS uses a different IP subnet.
- B. The STA will attempt to preauthenticate, but fail because the new BSS uses a different data-link broadcast domain.
- C. The STA will attempt to preauthenticate and succeed if DHCP is supported on the new subnet.
- D. The STA will attempt to preauthenticate and succeed if IP Mobility is enabled on the AP or WLAN controller.

Answer: B



91. Given: A WLAN controller is connected to ABC Company's core layer 3 Ethernet switch with an IEEE

92.1Q trunk connection. The WLAN controller's native VLAN is VLAN 6 and its IP address is 10.0.14.2 /24. Lightweight APs supporting centralized forwarding are connected to the network on VLANs 7, 8, and 9, and they each build a Layer 3 tunnel back to the WLAN controller's IP address.

The dynamically assigned IP addresses received by each AP from a DHCP server will be \_\_\_\_\_.

- A. Associated with the VLAN on which they are connected.
- B. Associated with the native VLAN of the WLAN controller.
- C. Associated with VLAN 1, the default VLAN for new APs
- D. Associated with a non-routable VLAN until the MAC address of the AP is removed from the controller's MAC filter

Answer: A

93. What is the purpose of DHCP Option 43, and how is it used with WLANs?

- A. It provides clients with a temporary IP address on a restricted VLAN until 802.1X authentication is completed. Then the client receives its long-term IP address.
- B. It provides IP address bindings for specific network nodes that require long-term IP address assignments. WLAN controllers are configured to use Option 43 to receive long-term IP address leases that are centrally managed with DHCP.
- C. It supports vendor-specific IP address attributes for node discovery purposes. APs use Option 43 with vendor class identifiers to obtain the IP address of a centralized WLAN controller.
- D. It integrates a DHCP server with AAA servers and user databases to dynamically assign IP addresses to client devices. During 802.1X, the AAA server uses

Answer: C

94. You deployed an AP and installed its antenna, and you now need to set the AP transmit power. Given a desired EIRP of 21 dBm, and an antenna gain of 5.85 dBd connected through 25 feet of cable with a loss specification of 4 dB/100 feet.

Assuming that there is no significant loss from the connectors, what should be the transmit power level for this AP?

- A. 10 mW
- B. 14 mW
- C. 20 mW
- D. 25 mW

Answer: D

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95. What kind of antenna results in a nearly circular pattern on the azimuth chart but a very flat donut shape on the elevation chart?

- A. High gain omni-directional
- B. 20 degree vertical yagi
- C. 120 degree horizontal sector
- D. 60 degree horizontal patch

Answer: B

9 1. What is a radome?

- A. A type of semi-circular ceiling found in atriums and that is a heavy cause of RF reflection.
- B. A weatherproof piece of plastic covering an antenna or antenna system.
- C. The unit used to measure the signal reflected backward by the end of a cable.
- D. A piece of metal positioned behind APs mounted on outdoor poles, designed to limit the butterfly effect.

Answer: B

96. Of the following antenna connector types, which one is the smallest?

- A. RP-TNC
- B. MC Connector
- C. N Connector
- D. Male N Connector

Answer: A

97. You are creating an outdoor bridge link that spans more than 1000 yards. Which one of the following antenna types is more likely to be included in the design?

- A. Yagi
- B. Omni
- C. Patch
- D. Panel

Answer: A

98. What is the purpose of Friis transmission equation [  $(LdB) = 20 \log(d) + 20 \log(f) - 27.55$  ]?

- A. Calculate earth bulge to determine minimum antenna height
- B. Calculate receive sensitivity for an 802.11 radio/antenna pair
- C. Calculate RF path loss in free space
- D. Calculate the loss experienced between the intentional radiator and antenna

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Answer: C

99. Why does a frame transmitted at 1 Mbps have a greater usable range than the same frame transmitted at 54 Mbps?

- A. Free space path loss causes greater signal dispersion for higher rate transmissions.
- B. Receiver sensitivity requirements are lower for frames transmitted with less complex modulation and coding.
- C. To improve reliability, 802.11 STAs increase transmit power as the signaling rate decreases.
- D. Lower data rate RF transmissions travel at higher speeds and are less likely to experience collisions.

Answer: B

100. What basic RF math formula should be used as a baseline to convert an RF value in units of dBm into a value of mW?

\*Note: "dBm" in the formulas represents the known dBm value

- A.  $0 \text{ dBm} = 1 \text{ mW}$
- B.  $\text{mW} \text{ C.}$
- D.  $\text{mW mW}$

Answer: A

101. Given: You are evaluating the theoretical and real-world RF gain benefits of transmit and receive features introduced by 802.11 with MIMO. This exercise allows you to quantify the features value in a real-world environment.

What is the maximum theoretical signal gain of chip-based TxBF and MRC (as features) when compared to the same AP using only a single antenna for transmit and receive (effectively simulating a 1x1 chip)?

- A. 2 Rx or Tx chains = 3 dBi gain 3 Rx or Tx chains = approx 5 dBi gain 4 Rx or Tx chains = 6 dBi gain
- B. 2 Rx or Tx chains = 1 dBi gain 3 Rx or Tx chains = 2 dBi gain 4 Rx or Tx chains = 3 dBi gain
- C. 2 Rx or Tx chains = 3 dBi gain 3 Rx or Tx chains = 6 dBi gain 4 Rx or Tx chains = 9 dBi gain
- D. 2 Rx or Tx chains = approx 4-6.5 dBi gain 3 Rx or Tx chains = approx 7-10 dBi gain

Answer: D

Explanation:

The maximum theoretical signal gain of chip-based TxBF and MRC depends on the number of antennas and the channel conditions. TxBF (transmit beamforming) is a

technique that focuses the transmitted signal in the direction of the intended receiver, resulting in higher signal strength and less interference. MRC (maximum ratio combining) is a technique that combines the signals received by multiple antennas in an optimal way, resulting in higher signal-to-noise ratio and better performance. The theoretical gain of TxBF and MRC can be calculated as  $GT_{xBF}=10\log_{10}(N)$  and

$$GMRC=10\log_{10}(N)$$

where N is the number of antennas. Therefore, the total gain of TxBF and MRC is  $G_{total}=GT_{xBF}+GMRC=20\log_{10}(N)$

However, this is the ideal case and assumes perfect channel conditions and alignment. In reality, the gain is lower due to factors such as channel fading, antenna spacing, and feedback delay. According to the CWDP study guide<sup>1</sup>, the typical gain of TxBF and MRC is about 4-6.5 dBi for 2 antennas, 7-10 dBi for 3 antennas, and 10-13 dBi for 4 antennas. Therefore, the answer is D.

Reference: 1: CWDP Certified Wireless Design Professional Official Study Guide: Exam PW0-250, Chapter 8, page 267.

102. Given:

In your regulatory domain, a Tx Power Level of "1" is equivalent to 17 dBm.

For every integer increment (e.g. from 1 to 2) to the Tx Power Level, the APs transmit power is halved.

In units of mW, what is the actual transmit power for an AP configured at a Tx Power Level of "4"?

- A. 6.25 mW
- B. 50 mW
- C. 12.5 mW
- D. 8 mW

Answer: C

103. You told your customer that multipath fading may be mitigated simply by moving one or both of the receivers antennas a small amount, usually by one to four wavelengths away from its original position. Your customer is prepared to make the change, but does not know the wavelength for 802.11ac.

What is the approximate wavelength of an 802.11ac radio wave?

- A. 5.5 cm (2.16 inches)
- B. 12 cm (4.72 inches)
- C. 15.24 cm (6 inches)
- D. 45 cm (17.71 inches)

Answer: A

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104. What is a valid 40 MHz channel configuration in the 2.4 GHz ISM band where channels 1-11 are permitted?

- A. 4 (primary), +1 (secondary)
- B. 2 (primary), -1 (secondary)
- C. 8 (primary), +1 (secondary)
- D. 1 (primary), 6 (secondary)

Answer: A

10 1. Assume that your network operates in a regulatory domain that allows use of the entire 5 GHz space allowed in the 802.11ac amendment. In your upcoming 802.11ac deployment, you would like to take advantage of the performance improvements that result from channel bonding. However, after extensive testing, you have determined that your mission-critical WLAN should not use channels requiring DFS support.

Given those two criteria (enable channel bonding and disable DFS channels), in the 5 GHz spectrum, how many non-overlapping 40 MHz channels will your system be able to use?

- A. 2
- B. 3
- C. 4
- D. 6

Answer: C

105. What commonly causes a client-to-AP link imbalance?

- A. The client's antenna gain is lower than the AP's antenna gain
- B. The client's transmit power is significantly lower than the AP's transmit power
- C. The AP's transmit power is significantly lower than the client's transmit power
- D. The AP's antenna gain is lower than the client's antenna gain

Answer: B

106. You are on site, planning a network at a freight shipping company on a busy harbor. Since the preliminary WLAN design specifies support for the 5 GHz spectrum, you would like to test for radar pulses to determine if DFS channels should be supported at this facility. As a part of your spectral survey with a laptop-based analyzer, you include DFS testing to identify the presence of radar. This is done by manually observing Real-time FFT, Duty Cycle, and Active Devices charts of the spectrum analyzer software.

What potential drawback is present with this DFS test method?

- A. Many WLAN products that support DFS channels report several false positives. Ideally, the actual WLAN equipment used in the deployment

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should be used to test for DFS.

B. Some sources of 5 GHz radar, such as military ships, are mobile in nature. A longer, automated test setup should be used to identify the presence or absence of radar.

C. Manual identification of radar pulses using spectrum analysis charts can be very difficult due to radar's low amplitude at the Wi-Fi receiver.

D. Modern spectrum analyzer adapters do not provide the necessary bandwidth resolution required to detect and measure radar signatures.

Answer: C

107. When performing an indoor predictive site survey to make the WLAN planning and design cycle more efficient, what is a best practice for configuration of the simulated APs in the predictive modeling software?

A. All simulated APs should be set to 20 MHz channels only.

B. Always use the default 2.2 dBi omnidirectional antenna patterns for simulated APs.

C. If dynamic RRM will be used, AP transmit power should be set to an estimated average level of the expected client devices, such as 25 mW.

D. Defining custom AP and antenna patterns will yield more accurate prediction data than the pre-configured vendor AP/antenna combinations.

Answer: C

108. What action should be taken after implementing a WLAN based on the design developed from the site survey process?

A. Post-installation survey

B. Requirements analysis

C. Gathering facility documentation

D. Design the infrastructure services

Answer: A

109. When preparing a floor plan graphic for use in predictive and manual site surveying, what calibration method will lead to the most accurate and reliable RF data?

A. Use the known size of a small object, such as a ceiling tile, and use a single instance of this object (e.g. a single ceiling tile) to scale the floor plan.

B. Measure the width of an actual office doorway with a tape measure and use this value to calibrate against a doorway graphic.

C. Use the longest available measurement (like a straight exterior wall) to calibrate the graphic's scale.

D. Calibrate the ceiling height of the floor plan first, then the survey software should

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be able to auto-calibrate the X and Y planes of the graphic.

Answer: C

110. While configuring your site survey software for an upcoming manual survey project, you notice the configuration option for "Network Card Simulation".

What is the purpose of such a feature and when would you use it?

A. This setting allows the site survey software to convert the APs measured downlink RF data into a simulated data set as if the same data were transmitted by a specific client station. It is useful for determining uplink client performance when clients are located far from APs as well as projecting cell size for ad hoc networks.

B. Since WLAN adapters are not typically calibrated by manufacturers, this setting is a form of software calibration in which you can calibrate an (uncalibrated) adapter to match one of the calibrated adapters shown in the list. This process improves the reliability of RF data collection and reporting when uncalibrated adapters are used.

C. This is the configuration area in which you specify the adapter type that will be used for the site survey so that the survey software can interpret that adapters reported metrics (based on proprietary formulas) into an RF measurement that is standardized by the survey software and known to its users. This is done

Answer: A

111. A wireless engineer from your company performed a site survey in an office building where a wireless network extension was needed. He reports that while performing a Layer 1 sweep near a meeting room full of people, he detected RF activity with a very low duty cycle. He is unsure how to

interpret what he recorded to determine its impact on a future Wi-Fi network.

What is true about this RF environment and its potential impact on the WLAN?

A. The signal affects the entire spectrum and will render the wireless network unusable. It must be located and removed.

B. The signal has a low duty cycle and should not be of major impact on the wireless network.

C. The signal is alternating between peaks (high interference level) and valleys (low interference level). The network channel design must be built to avoid the affected peak frequencies.

D. The signal is typical of a high radio card background noise. It shows that the card used for the Layer 1 sweep should be replaced and the Layer 1 sweep re-

Answer: B

112. What is the meaning of a Real Time FFT graph?

A. Real Time FFT means Real Time First Fundamental Trace and shows the value of the first signal

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detected on each frequency at each sweep interval.

B. Real Time FFT means Real Time Fast Frequency Timing and shows the RF pulses measured by the Layer 1 sweep tool.

C. Real Time FFT means Real Time Fast Fourier Transform and shows the max value of the signal detected on each frequency in real time.

D. Real Time FFT means Real Time Frequency Fundamental Texture and shows the value of the noise background generated by the card used to perform the

E. Real Time FFT means Real Time Fast Fourier Transform and shows the max value of the signal detected on each frequency in real time.

Answer: C

113. In a PC-based spectrum analyzer, what data chart identifies the overall RF utilization of a specific frequency in the environment being surveyed?

A. FFT Max Hold

B. FFT Average

C. Swept Spectrogram

D. Duty cycle

Answer: C

11 1. Given: In a site survey deliverable report, you are expected to explain the spectrum measurements taken at the customers site.

What portion of a spectrum analyzer view can be used to determine if a given channel is too active for use as the active channel for a new AP?

A. Device list

B. Frame decode

C. Real time FFT

D. Duty cycle

Answer: D

114. You are testing a VoWLAN deployment, and your communication measurements show a certain amount of lost packets.

What would be an acceptable packet error rate value to still provide acceptable call quality?

A. There should be 0% error in a VoWLAN type of deployment

B. No more than 1% PER max should be acceptable

C. No more than 4% PER max should be acceptable

D. No more than 8% PER max should be acceptable

Answer: D

115. You are site surveying a network for VoWiFi. You have positioned an AP for a



manual survey and are moving away from the AP with a phone in Survey Mode in your hand and you are reading the RSSI value of the signal received from the AP. You have previously determined that the noise floor was approximately -94 dBm on this floor of the building. The phone's documentation does not specify a recommended RSSI or SNR value for best performance.

Based on the information provided and the type of device (VoWiFi phone) you are deploying, what minimum RSSI should you plan for in all areas you are monitoring and where VoWiFi service is desired?

- A. - 75 dBm
- B. - 72 dBm
- C. - 67 dBm
- D. - 62 dBm

Answer: C

116. What statement is true of a WLAN design that supports Real-Time Location Services (RTLS) with 802.11 RFID asset tags?

- A. When passive tags are implemented, the AP density should be increased by 25% to make up for the shorter transmit range of passive tags as compared to active tags.
- B. Active RFID tags periodically transmit 802.11 beacon management frames that must be synchronized with the AP for proper location of the tagged asset.
- C. With passive tags, AP transmit gain should be increased to supply extra power for near-field coupling or backscatter modulation from the tag to the AP since the passive tag lacks an internal power source.
- D. Passive tags do not communicate directly with the WLAN infrastructure, but instead they rely on the tag reader to communicate tag information to the

Answer: D

117. In this question, you will compare the mobility processes of a network that supports WPA2-Personal and WPA2-Enterprise. Assume the use of a 15-character ASCII passphrase for WPA2-Personal and EAP-TTLS/MSCHAPv2 with WPA2-Enterprise. Also, assume that proprietary roaming protocols are not supported. When a device transitions from one BSS to another within the same ESS, what step must be performed in the WPA2-Enterprise transition that are not performed in the WPA2-Personal transition?

- A. Open System Authentication
- B. 802.11 Reassociation
- C. 802.1X authentication
- D. 4-Way Handshake

Answer: C

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118. ABC Manufacturing has a heavily-used dual-band (2.4 / 5 GHz) WLAN, but sporadic RF interference across the 2.4 GHz band is causing dropped VoWiFi calls and leading to data connectivity and throughput problems.

In addition to avoiding 2.4 GHz channels and installing a distributed spectrum analyzer to locate RF interference sources, what should the implementer do to resolve the problem fully?

- A. Have only guest access on the 5 GHz channels.
- B. Move all corporate data clients and VoWiFi devices to the 5 GHz channels appropriate for their regulatory domain.
- C. Use captive portals for guest authentication in 5 GHz.
- D. Implement WPA-PSK everywhere in the network.

Answer: B

119. When you see the SKINNY protocol in a post-install validation protocol capture, what does this indicate?

- A. Secure FTP is in use
- B. VoIP is used on the network
- C. HTTPS is in use
- D. Multicasting is used on the network

Answer: B

120. During a post-deployment verification, you are requested to troubleshoot an area where users are experiencing poor throughput. They are using data communication only, mainly from laptops. You captured the frame showing an incorrect FCS. This frame is typical of those that were captured by the analyzer.

What does this frame reveal about the RF network in this area?

- A. One station seems to be streaming video, thus may have reserved significant bandwidth via admission control
- B. Contention Free is in place in this network, which may starve some non-QoS stations from access
- C. Multipath or excessive collisions seem to be an issue in this area
- D. The AP seems to be too far to provide enough coverage to this area

Answer: C

121. Excessive uplink RTP frame retransmissions can result in \_\_\_\_\_.

- A. DE authentication of the transmitter by the receiver
- B. Lowering of the data transmission rate by the transmitting station
- C. MOS scores in excess of 5
- D. Head-of-Line blocking at the receiver

Answer: B

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122. When designing a WLAN to support voice in a large office, which design element is of the highest concern for performance?

A. Frequency Selection


B. Roaming

C. AP vendor

D. Band steering

Answer: B

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